Claims

1.   A method of searching a database of data elements, the method comprising:

based on a starting data element, identifying a first set of one or more data elements in the database, the data elements of the first set being referenced by the starting data element,

based on the first set, identifying a second set of one or more data elements in the database, the data elements of the second set referencing one or more of the data elements of the first set, and

generating data based on the data elements of the first and second sets and the relationships therebetween.

2.   The method of claim 1, wherein identifying a first set of one or more data elements includes:

determining whether the starting data element includes one or more references to one or more other data elements, and

identifying a first set of one or more data elements based on the references.

3.   The method of claim 1, wherein identifying a second set of one or more data elements includes:

determining whether one or more data elements in the database include one or more references to one or more of the data elements of the first set, and

identifying a second set of one or more data elements based on the references.

4.   The method of claim 1, wherein the starting data element is associated with a starting time and wherein identifying a first set of one or more data elements includes identifying data elements referenced by the starting data element and associated with first times earlier than the starting time.

5.   The method of claim 4, wherein identifying the second set of one or more data elements includes identifying data elements that reference the data elements of the first set and that are associated with second times later than the first times.

6.   The method of claim 4, wherein identifying the second set of one or more data elements includes identifying data elements that reference the data elements of the first set and that are associated with second times later than the first times and earlier than the starting time.

7.   The method of claim 1, further comprising:

    providing the generated data to one or more of a user and a display.

8.   The method of claim 1, further comprising:

    graphically displaying the data elements of the first and second sets and the relationships therebetween.

9.   The method of claim 8, wherein the data elements are represented by geometric shapes and wherein the relationships are represented by lines between geometric shapes.

10. The method of claim 9, further comprising:

determining locations at which to display the geometric shapes and the lines to reduce overlaps between geometric shapes and crossings between lines.

11. A method of searching a database to identify prior art publications for a starting patent publication, the method comprising:

based on the starting patent publication, identifying a first set of one or more publications in the database, the publications of the first set being cited by the starting patent publication,

based on the first set, identifying a second set of one or more publications in the database, the publications of the second set citing one or more of the publications of the first set, and

generating data based on the publications of the first and second sets and the citation relationships therebetween.

12. The method of claim 11, wherein the publications include one or more of patent publications and non-patent publications.

13. The method of claim 12, wherein the patent publications include one or more of issued patents, published patent applications, and non-published patent applications.

14. The method of claim 11, further comprising:

providing the generated data to one or more of a user and a display.

15.   The method of claim 11, further comprising:

graphically displaying the publications of the first and second sets and the relationships therebetween.

16.   The method of claim 11, wherein the publications are represented by geometric shapes and wherein the relationships are represented by lines between geometric shapes.

17.   The method of claim 11, further comprising:

determining locations at which to display the geometric shapes and the lines to reduce overlaps between geometric shapes and crossings between lines.

18.   The method of claim 11, further comprising:

based on the second set, identifying one or more candidate patent publications for one or more of: invalidating prior art for the starting patent publication, licensing opportunities, and seminal prior art.

19.   The method of claim 18, wherein identifying one or more candidate patent publications for invalidating prior art includes:

identifying one or more patent publications in the second set that do not cite the starting patent publication, that are not cited by the starting patent publication, and that are associated with filing dates earlier than the starting patent publication.

20. The method of claim 18, wherein identifying one or more candidate patent publications for licensing opportunities includes:

identifying one or more patent publications that are associated with a first assignee and that are cited by one or more patent publications associated with one or more different second assignees.

21. The method of claim 18, wherein identifying one or more candidate patent publications for seminal prior art includes:

identifying one or more patent publications that cite a first number of patent publications and that are cited by a second number of patent publications, wherein the second number is greater than the first number.

22. The method of claim 11, further comprising:

based on the second set, identifying one or more co-citing patent publications, the co-citing patent publications including patent publications of the second set that are associated with one or more of: filing dates later than the filing date of the starting patent publication and publication dates later than the filing date of the starting patent publication.

23. The method of claim 22, further comprising:

based on the co-citing patent publications, determining a patent prosecution strategy including one or more of:

filing one or more claims in a pending application,

filing one or more continuing applications of a parent application,

declaring one or more interferences, and

disclosing one or more of the co-citing patent publications to a patent-granting office.

24. A processor program for searching a database to identify prior art publications for a starting patent publication, the processor program being stored on a processor readable medium and comprising instructions to cause a processor to:

based on the starting patent publication, identify a first set of one or more publications in the database, the publications of the first set being cited by the starting patent publication,

based on the first set, identify a second set of one or more publications in the database, the publications of the second set citing one or more of the publications of the first set, and

generate data based on the publications of the first and second sets and the citation relationships therebetween.

25. The processor program of claim 24, further comprising instructions to:

based on the second set, identify one or more candidate publications for invalidating prior art for the starting patent publication, the candidate publications including publications in the second set that do not cite the starting patent publication, that are not cited by the starting patent

publication, that cite one or more publications cited by the starting patent publication, and that are associated with filing dates earlier than the starting patent publication.

26. The processor program of claim 24, further comprising instructions to:

based on the second set, identify one or more candidate patent publications for licensing opportunities, the candidate patent publications for licensing opportunities including one or more patent publications that are associated with a first assignee and that are cited by one or more patent publications associated with one or more different second assignees.

27. The processor program of claim 24, further comprising instructions to:

based on the second set, identify one or more candidate patent publications for seminal prior art, the candidate patent publications for seminal prior art including one or more patent publications that cite a first number of patent publications and that are cited by a second number of patent publications, wherein the second number is greater than the first number

28. The processor program of claim 24, further comprising instructions to:

based on the second set, identify one or more co-citing patent publications, the co-citing patent publications including patent publications of the second set that are associated with one or more of: filing dates later than the filing date of the

starting patent publication and publication dates later than the filing date of the starting patent publication.